

## **Appendix A: Environmental Projects**

In compliance with and in addition to the requirements in Section VI (Environmental Projects) of the Consent Decree in United States of America, State of Maryland, and David K. Paylor, Director, Commonwealth of Virginia Department of Environmental Quality v. Mirant Potomac River, LLC and Mirant Mid-Atlantic, LLC, Mirant shall comply with the requirements of this Appendix to reduce emissions of particulate matter and/or fugitive dust from that facility.

Supplemental Environmental Projects that make use of water sprays to control fugitive dust will not be operated during periods when daytime temperatures are below 32 degrees Fahrenheit, consistent with good operating practice, to avoid icing conditions that would be hazardous to employees and equipment. For each instance in which Mirant ceases to operate the water spray system, Mirant shall maintain a written record of the date, time, and temperature when operation of the water spray system ceases and resumes. Mirant shall produce such records to Plaintiffs upon request.

### **I. Environmental Projects**

#### **1. Bottom Ash and Fly Ash Silo Vent Secondary Filtration**

- a. Within 90 days after entry of the Consent Decree, Mirant shall submit a proposed plan for this Project to the Plaintiffs for review and approval. The proposed plan shall provide specifications for the installation of two secondary filtration systems (i.e., baghouse dust collectors and associated equipment) at the Potomac River Plant, as described herein.
- b. Ash from the Potomac River Plant's operations is transported pneumatically from the five units to three ash silos. Once in the silos, ash drops out and the transport air is vented out the top of the silo, through a baghouse dust collector. In this Project, Mirant shall install ductwork from the outlet of each ash silo vent down to ground level. Mirant shall also combine the vents from the two adjacent fly ash silos into one duct. In addition, Mirant shall install two secondary baghouse dust collectors and associated equipment at the outlet of the ducts at ground level.
- c. At the time of lodging of this Decree, Mirant estimates that this Project may reduce fugitive dust emissions at the Potomac River Plant by as many as 30 tons per year.
- d. Mirant estimates it will spend \$140,000 in implementing this Project.
- e. Mirant shall complete this Project and place the secondary filtration system in service by the later of September 1, 2005 or 7 months after the Plaintiffs' approval of Mirant's timely submitted proposed plan for this Project.

2. Coal Pile Wind Erosion and Dust Suppression

- a. Within 30 days after entry of the Consent Decree, Mirant shall submit a proposed plan for this Project to the Plaintiffs for review and approval. The proposed plan shall provide specifications for the implementation of fencing to control coal pile wind erosion and coal dust dispersion, as described herein.
- b. Mirant shall install a 12' high perimeter fence with windscreens on the windward and leeward sides of the coal storage pile to reduce wind erosion. The fencing shall be installed on top of existing concrete walls, which form the boundary of the coal pile. The fencing shall also be engineered to handle area wind loads, and be designed to avoid the effects of eddying and dust carryover.
- c. At the time of lodging of this Decree, Mirant estimates that this Project may reduce fugitive dust emissions at the Potomac River Plant by as many as 2.8 tons per year.
- d. Mirant estimates it will spend \$75,000 in implementing this Project.
- e. Mirant shall complete this Project and place the facility in service by the later of April 1, 2005 or 3 months after the Plaintiffs' approval of Mirant's timely submitted proposed plan for this Project.

3. Coal Stackout Conveyor Dust Suppression

- a. Within 30 days after entry of the Consent Decree, Mirant shall submit a proposed plan for this Project to the Plaintiffs for review and approval. The proposed plan shall provide specifications for the use of a chemical binding agent on the conveyor system to control coal dust dispersion at this location, as described herein.
- b. Coal delivered to the Potomac River Plant is either transported from a railcar unloader to the plant via a series of conveyor belts, or conveyed to a storage pile outside the plant. At the time of lodging of this Decree, a set of nozzles spray water at the end of the conveyor that drops coal onto the storage pile to suppress fugitive dust emissions. Once this Project is implemented, Mirant shall spray a chemical binding agent onto coal as it drops onto the belt. The binding agent shall be a non-hazardous chemical that agglomerates fine coal particles together prior to being dropped onto the pile, thereby preventing wind from causing the fine particles to escape. The binding agent shall remain effective for a month or more on the coal in the pile, even with rain or when coal is moved around the pile.
- c. At the time of lodging of this Decree, Mirant estimates that this Project may

reduce fugitive dust emissions at the Potomac River Plant by as many as 800 pounds per year.

- d. Mirant estimates it will spend \$112,000 in implementing this Project.
- e. Mirant shall complete this Project and place the facility in service by the later of December 1, 2004 or 30 days after the Plaintiffs' approval of Mirant's timely submitted proposed plan for this Project.

4. Ash Loader Upgrade

- a. Within 90 days after entry of the Consent Decree, Mirant shall submit a proposed plan for this Project to the Plaintiffs for review and approval. The proposed plan shall provide specifications for the installation of modern ash loading equipment at the Potomac River Plant, as described herein.
- b. Ash is transferred from storage silos to trucks by a gravity-feed system, in which ash-loading equipment regulates the flow of ash out of the silo above, then mixes it with water prior to dropping the dampened ash into a truck below. Fugitive ash dust emissions at this location are correlated to the extent to which the loader mixes water into the flowing ash. There are three ash silos, two of which have had modern ash loader equipment installed (in 1997 and 2001), and one that has the original equipment. Mirant shall replace the ash loading equipment on the third silo with the modern design which is much more effective at mixing water into the ash, further reducing fugitive dust emissions associated with this process.
- c. At the time of lodging of this Decree, Mirant estimates that this Project may reduce fugitive dust emissions at the Potomac River Plant by as many as 200 pounds per year.
- d. Mirant estimates it will spend \$280,000 in implementing this Project.
- e. Mirant shall complete this Project and place the facility in service by the later of June 1, 2006 or 17 months after the Plaintiffs' approval of Mirant's timely submitted proposed plan for this Project.

5. Ash Loading System Dust Suppression

- a. Within 90 days after entry of the Consent Decree, Mirant shall submit a proposed plan for this Project to the Plaintiffs for review and approval. The proposed plan shall provide specifications for the installation of a water fogging system to improve dust suppression in the ash loading process, as described herein.
- b. In addition to the Ash Loader Upgrade Project described in Paragraph 4, Mirant shall install a water fogging system at the transfer points between the ash loaders

and trucks, for additional dust suppression. Mirant shall also install a system of water pumps, piping, nozzles, and a control system to form a “fog” around the ash loader discharge chute. The water droplets shall drop fugitive ash particles to the ground, drain into a collection sump, and be treated at the Plant’s water treatment facility.

- c. At the time of lodging of this Decree, Mirant estimates that this Project may reduce fugitive dust emissions at the Potomac River Plant by as many as 200 pounds per year.
- d. Mirant estimates it will spend \$85,000 in implementing this Project.
- e. Mirant shall complete this Project and place the fogging system in service by the later of June 1, 2005 or 5 months after the Plaintiffs’ approval of Mirant’s timely submitted proposed plan for this Project.

6. Coal Railcar Unloading Dust Suppression

- a. Within 90 days after entry of the Consent Decree, Mirant shall submit a proposed plan for this Project to the Plaintiffs for review and approval. The proposed plan shall provide specifications for the use of a chemical binding agent in conjunction with the railcar unloading process, as described herein.
- b. The railcar unloader is a device that empties individual railcars filled with coal onto conveyor belts, prior to the conveyance of the coal to the plant, by tipping the railcar upside down. To supplement the existing dust controls at this location, Mirant shall spray a dilute mixture of water and binding agent onto the coal at three locations during the unloading process. The three spray levels shall be activated in sequence as each railcar is tipped over.
- c. At the time of lodging of this Decree, Mirant estimates that this Project may reduce fugitive dust emissions at the Potomac River Plant by as many as 200 pounds per year.
- d. Mirant estimates it will spend \$250,000 in implementing this Project.
- e. Mirant shall complete this Project and place the facility in service by the later of June 1, 2006 or 17 months after the Plaintiffs’ approval of Mirant’s timely submitted proposed plan for this Project.

7. Settled Dust Study

- a. Within 60 days after entry of the Consent Decree, Mirant shall submit a proposed plan for this Project to the Plaintiffs for review and approval. The proposed plan

shall provide objectives and parameters for the implementation of a study of fugitive dust emission sources around the Potomac River Plant, along with associated impacts on ambient air quality, as described herein.

- b. On a daily basis, Mirant shall place acetate sheets in stands at multiple sites on the property near dust sources. At the conclusion of each day, Mirant shall collect these sheets and analyze them for dust accumulation. Mirant shall also record wind speed and direction data on a daily basis. Mirant shall retain a qualified consultant to correlate the meteorological data with the collected dust accumulation information to determine frequency and severity of dust transport at the Plant site. Mirant shall submit a report to the Plaintiffs at the conclusion of the study, summarizing the data collected and any conclusions or inferences drawn therefrom, including those regarding impacts on ambient air quality. Mirant shall also make such report available to the public upon request.
- c. Mirant estimates it will spend \$100,000 to complete this Study.
- d. Mirant shall commence this Study by the later of November 1, 2004 or 30 days after the Plaintiffs' approval of Mirant's timely submitted proposed plan, and shall complete the study and submit the final report by no later than 180 days after such date.

8. Truck Washing Facility

- a. Upon entry of this Consent Decree, Mirant shall commence operation of a temporary Truck Washing Facility at the Potomac River Plant designed to reduce fugitive dust emissions.
- b. Within 90 days after entry of the Consent Decree, Mirant shall submit a proposed plan for this Project to the Plaintiffs for review and approval. The proposed plan shall provide specifications for the installation of a permanent Truck Washing Facility at the Potomac River Plant, as described herein.
- c. A permanent truck washing facility shall be installed at the Potomac River Plant to wash the wheels, under-carriage, and sides of trucks used to haul fly ash and bottom ash to off-site ash storage facilities. The facility shall consist of a steel basin with ramps on either end, and an array of nozzles that spray high velocity jets of water on the bottom and sides of trucks as they are driven through the device. Water shall be recirculated through a filtration tank. Two pumps shall move water through the system, one to supply water to the spray nozzles, and one to draw water out of the basin and through the filtration tank. Accumulated solids in the filtration tank shall be removed periodically, transported off site, and disposed of in accordance with all applicable local, state, and federal laws and regulations.

- d. At the time of lodging of this Decree, Mirant estimates that this Project may reduce fugitive dust emissions at the Potomac River Plant by as many as 13.7 tons per year.
- e. Mirant estimates it will spend \$100,000 in implementing this Project.
- f. Mirant shall complete this Project and place the facility in service by the later of July 1, 2005 or 5 months after the Plaintiffs' approval of Mirant's timely submitted proposed plan for this Project.

9. Virginia Clean Air Partners Project

- a. Within ninety (90) days after entry of this Consent Decree, and as part of the consideration provided to Virginia for its resolution of claims under this Consent Decree, Mirant shall provide funding to Clean Air Partners, an organization administered through the Metropolitan Washington Council of Governments, to support the development of an education campaign focused on "particle pollution" (PM). The primary function of the campaign shall be the development of a formal educational curriculum, training, and outreach to affected members of the community in the Northern Virginia area. The educational materials developed shall focus on the health effects of exposure to PM emissions, the causes and sources of PM emissions, and methods for protecting against health impacts and for reducing individual contributions to air pollution in the Washington region.
- b. Mirant estimates it will spend \$30,000 to fund this public outreach program.

**Appendix B – Allocated Emission Limitations  
in the Event of Severance, Sale or Transfer**

<b>2006</b>	<b>Technology</b>	<b>TONNAGE LIMITS</b>		<b>RATE LIMITS</b>
		<b>Ozone Season NOx Cap</b>	<b>Annual NOx Cap</b>	<b>Ozone Season NOx Emission Rate</b>
Potomac River	3 LNB + 3 SOFA	1,600	3,700	N/A
Dickerson	-	1,840	4,660	N/A
Chalk Point	-	3,150	8,870	N/A
Morgantown	-	6,000	15,860	N/A
<b>TOTALS</b>		<b>12,590</b>	<b>33,090</b>	

<b>2007</b>	<b>Technology</b>	<b>TONNAGE LIMITS</b>		<b>RATE LIMITS</b>
		<b>Ozone Season NOx Cap</b>	<b>Annual NOx Cap</b>	<b>Ozone Season NOx Emission Rate</b>
Potomac River	3 LNB + 3 SOFA	1,600	3,700	N/A
Dickerson	-	1,840	4,660	N/A
Chalk Point	-	3,150	8,870	N/A
Morgantown	1 SCR	3,600	11,690	N/A
<b>TOTALS</b>		<b>10,190</b>	<b>28,920</b>	

<b>2008</b>	<b>Technology</b>	<b>TONNAGE LIMITS</b>		<b>RATE LIMITS</b>
		<b>Ozone Season NOx Cap</b>	<b>Annual NOx Cap</b>	<b>Ozone Season NOx Emission Rate</b>
Potomac River	3 LNB + 3 SOFA	1,600	3,700	0.270
Dickerson	-	1,840	4,660	0.260
Chalk Point	-	1,570	7,950	0.150
Morgantown	2 SCR's	1,140	5,690	0.060
<b>TOTALS</b>		<b>6,150</b>	<b>22,000</b>	

<b>2009</b>	<b>Technology</b>	<b>TONNAGE LIMITS</b>		<b>RATE LIMITS</b>
		<b>Ozone Season NOx Cap</b>	<b>Annual NOx Cap</b>	<b>Ozone Season NOx Emission Rate</b>
Potomac River	3 LNB + 3 SOFA	1,600	3,700	0.270
Dickerson	-	1,950	4,770	0.260
Chalk Point	-	1,620	7,330	0.150
Morgantown	2 SCR's	980	3,850	0.060
<b>TOTALS</b>		<b>6,150</b>	<b>19,650</b>	

<b>2010</b>	<b>Technology</b>	<b>TONNAGE LIMITS</b>		<b>RATE LIMITS</b>
		<b>Ozone Season NOx Cap</b>	<b>Annual NOx Cap</b>	<b>Ozone Season NOx Emission Rate</b>
Potomac River	3 LNB + 3 SOFA	1,475	3,700	0.240
Dickerson	-	1,480	4,300	0.220
Chalk Point	-	1,420	4,430	0.130
Morgantown	2 SCR's	825	3,570	0.050
<b>TOTALS</b>		<b>5,200</b>	<b>16,000</b>	

## **Appendix C: Method for Prorating Multi-Plant NOx Emission Limitations**

### **I. Ozone Season NOx Tonnage Limitation**

When the revised or allocated system-wide NOx emission limitations are applicable in accordance with Paragraphs 141, 185, 188, 189 or 190, and a plant is severed, sold or transferred (hereinafter “severed”) from the Mirant System during an Ozone Season, then for that Ozone Season only:

a. the System-Wide Ozone Season NOx Tonnage Limitation applicable to Mirant for the remaining Units in the Mirant System shall be prorated in accordance with the following formula:

*System-Wide Ozone Season Tonnage Limitation applicable during the year of severance, as provided in Paragraph 58*

-

*[sum of Ozone Season Tonnage Limits for each severed plant in the year of severance as provided in Appendix B*

×

*(number of Ozone Season days the severed plants will not be part of Mirant System in the year of severance/153)]\**;

and

b. the System-Wide Ozone Season NOx Tonnage Limitation applicable to the owner or operator of the severed plant(s) shall be prorated in accordance with the following formula:

*sum of Ozone Season NOx Tonnage Limits for severed plant(s)  
in the year of severance as provided in Appendix B*

×

*(the number of Ozone Season days the severed plants were no longer part of the Mirant System/153)\**



## II. Ozone Season NOx Emission Rate

When the revised or allocated system-wide NOx emission limitations are applicable in accordance with Paragraphs 141, 185, 188, 189, or 190, and a plant is severed from the Mirant System during an Ozone Season, then for that Ozone Season only:

a. the System-Wide Ozone Season Emission Rate applicable to Mirant for the remaining Units in the Mirant System shall be prorated in accordance with the following formula:

$$\begin{aligned} & \{ \text{Ozone Season Tonnage Limits for all plants in the Mirant System in year of} \\ & \quad \text{severance, as provided in Paragraph 58} \\ & \quad - \\ & \quad [ \text{sum of Ozone Season Tonnage Limits for each severed plant in year of} \\ & \quad \quad \text{severance, as provided in Appendix B} \\ & \quad \quad \times \\ & \quad ( \text{number of Ozone Season days the severed plants will not be part of Mirant System in} \\ & \quad \quad \quad \text{year of severance/153}) \} \\ & \quad \div \\ & \quad \{ \text{sum of Actual 2002 Ozone Season Heat Input for the} \\ & \quad \quad \text{plant(s) in Mirant System in year of severance} \\ & \quad \quad - \\ & \quad \quad [ \text{sum of Actual 2002 Ozone Season Heat Input for all severed plant(s) in year of} \\ & \quad \quad \quad \text{severance} \\ & \quad \quad \quad \times \\ & \quad \quad \quad ( \text{number of Ozone Season days the severed plant(s) will not be part of Mirant} \\ & \quad \quad \quad \quad \text{System in year of severance/153}) \} \\ & \quad \quad \times \\ & \quad \quad 2,000 \text{ lb/ton*}; \end{aligned}$$

and

b. the System-Wide Ozone Season Emission Rate applicable to the new owner or operator of the severed plant(s) shall be prorated in accordance with the following formula:

$$\begin{aligned}
 & \left( \text{sum of Ozone Season Tonnage Limits for all plants severed from Mirant System} \right. \\
 & \quad \left. \text{in year of severance, as provided in Appendix B} \right) \\
 & \quad \div \\
 & \left( \text{sum of Actual 2002 Ozone Season Heat Input for all severed plants in the year of} \right. \\
 & \quad \left. \text{severance} \right) \\
 & \quad \times \\
 & 2,000 \text{ lb/ton.}^*
 \end{aligned}$$

### III. Annual NOx Tonnage Limitations

When the revised or allocated system-wide NOx emission limitations are applicable in accordance with Paragraphs 141, 185, 188, 189 or 190, and a plant is severed from the Mirant System at any time other than the last day of the calendar year, then for that year only:

a. the System-Wide Annual NOx Tonnage Limitation applicable to Mirant for the remaining Units in the Mirant System shall be prorated in accordance with the following formula:

$$\begin{aligned}
 & \text{System-Wide Annual NOx Tonnage Limitation in year of severance, as provided} \\
 & \quad \text{in Paragraph 57} \\
 & \quad - \\
 & \left[ \text{sum of annual NOx Tonnage Limits for each severed plant in year of severance,} \right. \\
 & \quad \left. \text{as provided in Appendix B} \right) \\
 & \quad \times \\
 & \left( \text{number of calendar days the severed plants will not be part of Mirant System in} \right. \\
 & \quad \left. \text{year of severance/365} \right) ]^*;
 \end{aligned}$$

and

b. the System-Wide Annual NO<sub>x</sub> Tonnage Limitation applicable to the new owner or operator of the severed plant(s) shall be prorated for the partial year in which the Ownership Interest was severed in accordance with the following formula:

*sum of Annual NO<sub>x</sub> Tonnage Limits for severed plant(s)  
in year of severance, as provided in Appendix B*

×

*(the number of calendar days the severed plants were no longer part of the  
Mirant System/365)\**

\* *Note:* If two or more plants are severed on different days, the tonnage cap and the heat input for each severed plant shall be prorated separately for each plant on the day of severance.